

Washington Street Bridge
Across Spokane River at
Washington Street
Spokane
Spokane County,
Washington

HAER No.

WA-3

HAER
WASH,
32-SPOK,
2-

PHOTOGRAPHS

HISTORICAL AND DESCRIPTIVE DATA

HABS/HAER
National Park Service
Pacific Northwest Region
2001 Sixth Avenue
Seattle, Washington 98121

HISTORIC AMERICAN ENGINEERING RECORD

WASHINGTON STREET BRIDGE

Spokane, Washington
HAER WA-3

HAER
WASH
32-SPOK,
Z--

Location: Spans Spokane River at Washington
Street in downtown Spokane.
UTM: 11 468700 5278760
QUAD: Spokane
SCALE: 1:62.5
Sec. 18, Township 25 N, Range 43 E

Date of Construction: 1907-1908

Present Owner: City of Spokane
Department of Public Works
West 808 Spokane Falls Blvd.
Spokane, Washington 99201

Present Use: Vehicular and Pedestrian

Significance: The Washington Street Bridge is an
early example of reinforced con-
crete construction within the
state. The ribbed concrete struc-
ture is a patented design of the
nationally renowned bridge engineer,
J.B. Strauss. It remains the
oldest surviving concrete arch
highway bridge within Washington.

WASHINGTON STREET BRIDGE
Spokane, Washington

In 1908, a three spanned reinforced concrete arch was constructed across the north channel of the Spokane River at Washington Street firmly linking Havermale Island to the commercial center of the city. The Spokane River surges through the center of the city in tiers of spectacular waterfalls. It was this enormous natural power source that resulted in the development of the city of Spokane at this particular location. However, it was also the Spokane Falls that divided the city. The Washington Street Bridge was the first of several concrete arches to be constructed across the Spokane River marking the beginning of the city's effort to connect the growing metropolis with permanent structures.

The 242 foot bridge at Washington Street consists of three 77 foot arches. These flattened ribbed arches have a rise of nine feet two inches. The overall design was supervised by Mr. Charles McIntyre, City Engineer of Spokane, who was responsible for the construction of several concrete arches throughout the city. The city selected a patented ribbed concrete steel bridge design of the nationally renowned engineer, J.B. Strauss. J.B. Strauss of the Chicago-based Strauss Bascule and Concrete Bridge Company served as the consulting engineer throughout the duration of the project. The concrete arch spans were constructed by the Wallace-Coates Engineering Company who were the "sole agents and constructors" of the Strauss Bascule and Concrete Bridge Company. In a letter to Mr. McIntyre in 1906, a representative of the Wallace-Coates Engineering Company hailed the merits of the Strauss design:

As regards the arch ring itself, we like to call your attention to the facts that by dividing this into ribs and thereby making a deeper section, we gain the advantage of placing the metal and concrete farther from the neutral axis which results in great economy...

By doing this the expense for forms in ordinary cases is enlarged, this is however, fully eliminated in our design by using concrete forms as proposed and patented by J.B. Strauss.

This three-spanned structure cost the city \$264,000.

It was necessary to revise the design of the floor system to accommodate the tracks for the new Spokane and Inland Railway system. When the bridge was completed, it provided a 44 foot wide roadway, curb to curb, two sidewalks, and two railway tracks.

In preparation for EXPO 74, a 40 foot span was added to the north end of the Washington Street Bridge in order to create an underpass for pedestrian and bicycle traffic along the north bank of the river.²

The Washington Street Bridge is not only an early example of reinforced concrete construction within the state, but it is also an early example of a ribbed arch. The flattend form of its ribs reflected future developments in concrete arch design. The construction of the Washington Street Bridge preceded the proliferation of the reinforced concrete arch which occurred during the teens when the construction of hard surface, permanent highways necessitated the construction of bridges of "permanent character."³ The Washington Street Bridge is significant as the oldest surviving concrete arch highway bridge within the state.

¹N. Beier to Mr. Charles McIntyre, 12 September 1906, Department of Public Works files, Spokane, Washington.

²Adkison, Leigh, Sims, and Cuppage, "Preliminary Engineering Report," April 1980.

³Henry Grattan Tyrrell, History of Bridge Engineering, (Chicago: H.J. Tyrrell, 1911), pp. 430-438.

Lisa Soderberg
Historian
Office of Archaeology and
Historic Preservation
Olympia, Washington 98504
July 1982